

REMARKS

This is a full and timely response to the non-final Office Action mailed September 11, 2006. Reconsideration and allowance of the application and presently pending claims are respectfully requested.

Present Status of Patent Application

Upon entry of the amendments in this response, claims 1, 2, 4, 6-11, 13-23, 25, and 32-38 remain pending in the present application. More specifically, claims 3, 5, 12, 24, and 26-31 have been canceled without prejudice, waiver or disclaimer. Applicants reserve the right to pursue the subject matter of canceled claims in a continuing application, if Applicants so choose, and do not intend to dedicate the canceled subject matter to the public. Claims 1, 13, 25 and 32 have been currently amended with no introduction of new matter and claims 33-38 have been newly submitted with no introduction of new matter.

Reconsideration and allowance of the application and presently pending claims are respectfully requested.

Claim Rejections under 35 U.S.C. §103

I. Statement of the Rejection

Claims 1, 2, 4, 6-11, 15-16, 18-23, 25 and 32 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 6,252,254 to Soules et al. and further in view of U.S. Patent 6,809,471 to Setlur et al.

Response to the Rejection

Claims 1, 2, 4, 6-11, 15-16, 18-23, 25 and 32

As is known, the MPEP provides several guidelines for rejecting a claim under 35 U.S.C. §103(a). Specifically, reference is made to MPEP 706.2(j) *Contents of a 35 U.S.C. 103 Rejection*, which states in pertinent part:

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the

prior art and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). See MPEP § 2143 - § 2143.03 for decisions pertinent to each of these criteria.

(Emphasis added)

Applicants respectfully assert that the rejection of claims 1, 2, 4, 6-11, 15-16, 18-23, 25 and 32 under 35 U.S.C. §103(a) fails to satisfy the three basic criteria highlighted above. Remarks related to individual claims are presented below.

Claim 1

The first criterion under MPEP 706.2(j) states that there must be some suggestion or motivation to combine reference teachings. In the present rejection, two references have been cited as combinedly anticipating each element of Applicants' claim 1. Unfortunately, no proper motivation has been disclosed that would lead one of ordinary skill in the art to combine these two references. Applicants respectfully assert that it is improper on the part of the Office action to merely point to certain selected aspects of Soules and Setler and state that it would be logical to combine these two references because of a perceived advantage in doing so. (In this matter, attention is drawn to the Office action statement: *Therefore it would have been obvious to use Mg₄GeO_{5.5}F:Mn⁴⁺ for red emitting phosphor as suggested by Setlur in the phosphor composition of Soules for providing high optical efficiency.*)

Applicants' assertion may be further substantiated by using an example wherein a prior art reference other than Soules may contain a disclosure relating to application of gold plating on pins of a light emitting device such as the one disclosed by Soules. Even though the gold plating provides several advantages, it cannot be automatically concluded that one of ordinary skill in the art would be motivated to modify Soules' light emitting device to include gold plating on the pins, unless Soules disclosed a reason to do so.

Similarly, it is illogical to presume that one of ordinary skill in the art would modify Soule's device to use Mg₄GeO_{5.5}F:Mn⁴⁺ as a red emitting phosphor, when there is no disclosure in Soules to suggest any shortcoming related to optical efficiency.

In this matter, it may be further relevant to point out that it is legally impermissible to utilize hindsight obtained via Applicants' own disclosure to assert that a combination of prior art references would be apparent to one of ordinary skill in the art.

Consequently, for at least the reasons outlined above, Applicants respectfully assert that the

rejection fails to satisfy the first criterion of MPEP 706.2(j) to establish a *prima facie* case of obviousness as required for a proper rejection under 35 U.S.C. §103(a). The rejection further fails to satisfy the third criterion for reasons described below.

Claim 1 includes “phosphor particles comprising a material selected from CaS:Eu²⁺, Mn²⁺;Mg₄GeO_{5.5}F:Mn⁴⁺ and ZnS:Mn²⁺” While Applicants recognize the fact that the selection of these materials for the phosphor particles has been presented in the claim in alternative form wherein any one of the materials may be used to the preclusion of others, it should also be recognized that when interpreted as a “menu” of materials, the cited prior art does not include ZnS:Mn²⁺ in the menu of choices.

Consequently, Applicants respectfully assert that the Office action fails to satisfy the third criterion of MPEP 706.2(j) (vis-à-vis the prior art reference (or references when combined) must teach or suggest all the claim limitations) for establishing a *prima facie* case of obviousness as necessary for a proper rejection under 35 U.S.C. §103(a).

Notwithstanding the shortcomings of the present rejection, Applicants have opted to amend claim 1 in the interests of moving forward prosecution and presenting certain aspects of the invention in greater detail. Currently amended claim 1 includes: “*phosphor particles having a mean particle diameter in the range of about 13 to about 20 micrometers and a d₉₀ in the range of about 30 micrometers to 45 micrometers, wherein d₉₀ refers to a size at which 90 volume percent of the particles are smaller than the mean particle diameter, the phosphor composition.*” Applicants respectfully assert that at least this aspect of claim 1 is not disclosed in the cited prior art.

Consequently, for at least the reasons provided above, Applicants respectfully request withdrawal of the rejection followed by allowance of claim 1.

Claims 2, 4, 6-11, 15-16, 18-23, and 25

Because independent claim 1 is allowable, claims 2, 4, 6-11, 15-16, 18-23, and 25 that depend directly or indirectly on claim 1 are also allowable as a matter of law. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). Consequently, Applicants respectfully request allowance of claims 2, 4, 6-11, 15-16, 18-23, and 25.

Claim 32

The remarks related to MPEP 706.2(j) that have been provided above with reference to independent claim 1 are equally pertinent to independent claim 32. However, in the interests of

brevity these remarks will not be repeated herein. It may be however relevant to point out that currently amended claim 32 includes: “*a first type of phosphor particles consisting of ZnS:Mn²⁺*” Applicants respectfully assert that at least this aspect of claim 32 is not disclosed in the cited prior art. Consequently, Applicants respectfully request withdrawal of the rejection followed by allowance of claim 32.

II. Statement of the Rejection

Claims 1, 2,14, 25-27 are rejected under 35 U.S.C. §103(a) as being anticipated by U.S. Patent 6,294,800 to Duggal et al. and further in view of U.S. Patent 6,809,471 to Setlur et al.

Response to the Rejection

Claim 1

The remarks related to MPEP 706.2(j) that have been provided above with reference to the rejection of independent claim 1 using a first cited combination of references are equally pertinent to the rejection of claim 1 using this second combination of references. Again, in the interests of brevity these remarks will not be repeated herein. Applicants respectfully request withdrawal of this rejection followed by allowance of claim 1.

Claims 2, 14, and 25

Because independent claim 1 is allowable, claims 2, 14, and 25 that depend directly or indirectly on claim 1 are also allowable as a matter of law. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). Consequently, Applicants respectfully request allowance of claims 2, 14, and 25.

Claims 26-27

Applicants have opted to cancel claims 26 and 27 and respectfully assert that the rejection of these claims has been thereby rendered moot.

III. Statement of the Rejection

Claims 12 and 13 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 6252,254 to Soules and U.S. Patent 6,809,471 to Setlur et al. and further in view U.S. Patent 6,576,488 to Collins et al.

Response to the Rejection

Claim 12

Applicants have opted to cancel claim 12 and respectfully assert that the rejection of this

claim has been thereby rendered moot.

Claim 13

Because independent claim 1 is allowable, claim 13 that depends directly on claim 1 is also allowable as a matter of law. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). Consequently, Applicants respectfully request allowance of claim 13.

IV. Statement of the Rejection

Claim 17 is rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 6252,254 to Soules and U.S. Patent 6,809,471 to Setlur et al. and further in view of U.S. Patent 6,586,882 to Harbers.

Response to the Rejection

Claim 17

Because independent claim 1 is allowable, claim 17 that depends directly on claim 1 is also allowable as a matter of law. *In re Fine*, 837 F.2d 1071 (Fed. Cir. 1988). Consequently, Applicants respectfully request allowance of claim 17.

V. Statement of the Rejection

Claim 24 is rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 6252,254 to Soules and U.S. Patent 6,809,471 to Setlur et al. and further in view of WO 03/005458 to Brunner et al. (U.S. Patent Application Publication 2004/0188697 to Brunner et al.

Response to the Rejection

Claim 24

Applicants have opted to cancel claim 24 and respectfully assert that the rejection of this claim has been thereby rendered moot.

VI. Statement of the Rejection

Claim 28 is rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent 6252,254 to Soules and U.S. Patent 6,809,471 to Setlur et al. and further in view of U.S. Patent 6,490,309 to Okazaki et al.

Response to the Rejection

Claim 28

Applicants have opted to cancel claim 28 and respectfully assert that the rejection of this claim has been thereby rendered moot.

Though claim 28 has been canceled it may be pertinent to draw attention to the Office action statement: “*Okazaki further discloses that high pulsed ultraviolet light can be obtained with high efficiency and high output power by driving the laser diode in a pulsed mode,*” with reference to newly submitted claim 33 and point out that Applicants’ drive circuit is an integral part of the light emitting device of claim 33 rather than an external drive circuit as may possibly be suggested by Okazaki.

Prior Art Made of Record

The prior art made of record has been considered, but is not believed to affect the patentability of the presently pending claims.

CONCLUSION

In light of the reasons set forth above, Applicants respectfully submit that pending claims 1, 2, 4, 6-11, 13-23, 25, and 32-38 are in condition for allowance. Favorable reconsideration and allowance of the present application and all pending claims are hereby courteously requested. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is invited to call the undersigned representative at (404) 610-5689.

Respectfully submitted,

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